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THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

Applicant: Paul F. Umbeck

Date: January 22, 1987

Serial No.: 937,384

Group Art Unit:

Filed: December 3, 1986

Examiner: Sheila M. Johnson

For: GENETIC ENGINEERING OF COTTON  
PLANTS AND LINES

Docket: D601

RESPONSE TO NOTICE TO FILE MISSING PARTS  
AND PRELIMINARY AMENDMENT

Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

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FEB 11 1987

APPLICATION BRANCH

Dear Sir:

With regard to the above-identified patent application, the applicant respectfully responds to the Notice to File Missing Parts of Application and makes a preliminary amendment and citation of publications enclosed herewith in connection with the above-identified case.

In the Specification:

The applicant respectfully requests the following modifications to be made to the patent application:

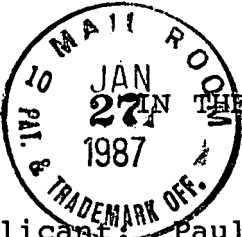
Page 2, line 36, delete "experimentors" and insert  
--experimenters--.

Page 15, line 28, delete "Paszkowski" and insert --Paszkowski--.

Page 19, line 20, delete "outline" and insert therefor  
--outlined--;

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Page 19, line 36, after "No." delete " \_\_\_\_\_ " and insert therefor --67275--.

Page 20, line 12, delete "prusuant" and insert therefor --pursuant--.

#### Remarks

In response to the Notice to File Missing Parts mailed January 13, 1987 with regard to the above identified patent application, the applicant wishes to submit to the Office, and encloses herewith, a fully executed copy of the application signed by the inventor with an appropriate Declaration.

The applicant also respectfully requests the Examiner to make the minor changes and modifications, and insert the accession number, as indicated in the above changes to the text of the application.

In addition, the applicant wishes to bring to the Examiner's attention the following publications.

Barton et al., "Regeneration of Intact Tobacco Plants Containing Full Length Copies of Genetically Engineered T-DNA, and Transmission of T-DNA to R1 Progeny, "Cell, Vol. 32, pp. 1033-1043 (1983).

Beasley et al. "The Effects of Plant Growth Substances on In Vitro Fiber Development From Fertilized Cotton Ovules," Amer. J. Bot., Vol. 60(2): pp. 130-139 (1973).

Bevan, "Binary Agrobacterium vectors for plant transformation," Nucleic Acids Research, Vol. 12:22 p. 8711-8721 (1984).

Davidonis et al. "Plant Regeneration From Callus Tissue of Gossypium hirsutum L.," Plant Sc. Letters, Vol. 32, p. 89-93 (1983).

Davis et al. "In Vitro Culture of Callus Tissues and Cell Suspensions from Okra (Hibiscus Esculentus L.) and Cotton (Gossypium Hirsutum L.)," In Vitro, Vol. 9:6 pp. 395-398 (1974).

de Framond et al., "Mini-Ti: A new Vector Strategy for Plant Genetic Engineering," BIO/TECHNOLOGY, Vol. 1, p. 262-269 (May 1983).

Finer et al., "Initiation of callus and somatic Embryos from explants of mature cotton (Gossypium klotzschianum Anderss)," Plant cell Rep., Vol. 3, p. 41-43 (1984).

Gamborg et al., "Nutrient Requirements of Suspension Cultures of Soybean Root Cells," Exp. Cell Res., Vol. 50, p. 151-158 (1968).

Gorman et al., "Recombinant Genomes Which Express Chloramphenicol Acetyltransferase in Mammalian Cells," Mol. and Cell. Biol., Vol. 2:9 pp. 1044-1051 (1982).

Herrera-Estrella et al., "Expression of chimaeric genes transferred into plant cells using a Ti-plasmid-derived vector," Nature, Vol. 303:19 p. 209-213 (1983).

Hoekema et al., "A binary plant vector strategy based on separation of vir- and T-region of the Agrobacterium tumefaciens Ti-plasmid," Nature, Vol. 303, p. 179-180 (12 May 1983).

Linsmaier et al., "Organic Growth Factor Requirements of Tobacco Tissue Cultures," Physiologia Plantarum, Vol. 18, p. 100-127 (1965).

Mitten, "Somatic Embryogenesis in Gossypium hirsutum L.," Proc. of Beltwide Cotton Prod. Res. Conf., p. 57-58 (Jan. 1985).

Murashige et al., "A Revised Medium for Rapid Growth and Bio Assays with Tobacco Tissue Cultures," Physiologia Plantarum, Vol. 15, p. 473-497 (1962).

Paszkowski et al., "Direct gene transfer to plants," EMBO Jour., Vol. 3:12 pp. 2717-2722 (1984).

Price et al., "Somatic Embryogenesis in Suspension Cultures of Gossypium klotzschianum Anderss," Planta, Vol. 145, pp. 305-307 (1979).

Price et al., "Callus Cultures of Six Species of Cotton (Gossypium L.) on Defined Media," Plant Sci. Letters, Vol. 10, p. 115-119 (1977).

Rangan et al., "Somatic Embryogenesis in Tissue Cultures of Gossypium hirsutum L.," In Vitro, Vol. 20, p. 256 (1984).

Rani et al., "Establishment of Tissue Cultures of Cotton," Plant Science Letters, Vol. 7, p. 163-169 (1976).

Reiss et al., "A new sensitive method for qualitative and quantitative assay of neomycin phosphotransferase in crude cell extracts," Gene, Vol. 30, p. 211-218 (1984).

Robacker et al., "Somatic Embryogenesis in Two Strains of Gossypium hirsutum," Ann. Mtg. of the Amer. Soc. of Agronomy, p. 85 (Nov. 1984).

Stewart et al., "In-ovulo Embryo Culture and Seedling Development of Cotton (Gossypium hirsutum.L.)," Planta, Vol. 137, pp. 113-117 (1977).

Trolinder et al., "Somatic Embryogenesis in Cell Suspension Cultures of Gossypium hirsutum," Proc. of Beltwide Cotton Prod. Res. Confs., p. 46 (Jan. 1985).

Copies of all of the above publications are enclosed herewith for the Examiner's review. All of these publications are specifically mentioned in the text of the application. Some, as referred to in the "Background of the Invention" portion of the specification are referred to for general background in the technology. The other references cited in the specification of the application are included to make it clear regarding experimental details well known to those of ordinary skill in the art.

The applicant respectfully requests the Examiner to consider these references in evaluating the patentability of the subject matter claimed by the applicant here.

Therefore the applicant respectfully requests examination on the

merits of this patent application.

Respectfully submitted,



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